REVIEW OF H7 FINAL PROPOSALS FOR COMMERCIAL CAPEX

A report prepared for Heathrow

July 2022

SUMMARY

We have been commissioned by Heathrow to comment on the CAA's approach of not allowing capex for commercial revenue projects if the 'payback' period is greater than 5 years. Ultimately, we find that the CAA's approach is overly simplistic and short-sighted:

- The approach fails to recognise that projects can still make a net contribution to single till revenues within 5 years even if they do not fully pay back the total cost of the project within the first 5 years. This may inadvertently result in some projects being disallowed even though they would actually lower airport charges in H7.
- The approach means that charges will be higher in future periods, which appears to be at odds with the CAA's duties and stated objectives.
- The approach also appears to be inconsistent with the CAA's approach in previous periods. This would result in intertemporal issues whereby airport users in H7 would be unduly prioritised, as they would benefit from commercial capex made in previous periods whilst not necessarily making the same level of contribution to future users.
- The approach is not supported by regulatory precedent. At the 2019 price control at Dublin Airport, the CAR assessed and ultimately allowed a number of projects where the payback was significantly higher than 5 years, with some projects with paybacks of up to 16 years still being allowed. The CAR noted that these projects were in the interest of users.
- The approach is also inconsistent with how the CAA assesses other types of capex where projects routinely have long asset lifetimes and may not be paid back for many years (e.g. terminal buildings).
- The approach overlooks the role of commercial capex in delivering service quality improvements in addition to simply lowering airport charges.
- Rigidly focusing on payback over a 5-year period is not what we would expect to see in a competitive market, which undermines the rationale of the single till, limits Heathrow's ability to outperform (and we note that the CAA has applied a 1% management stretch to commercial revenues), and seemingly ignores airlines' views.
- A 5-year payback period appears to be particularly biased against commercial capex related to property, which often involves large upfront investment with relatively long lead times and long asset lifetimes. The CAA's approach could effectively remove Heathrow's ability to invest in property, which overlooks the potential contribution that it can make to the single till.

INTRODUCTION

BACKGROUND

In its RBP Update 2 in December 2021, Heathrow presented a £4.5 billion capex plan for H7 (2020 CPI prices). This included £546 million of capex linked to its 'Commercial Revenue Generation' programme – i.e. capex projects that will enable Heathrow to generate commercial revenues in future (which we refer to as 'commercial capex').

However, of the £546 million of commercial capex included in Heathrow's plan, ultimately in its Final Proposal the CAA has only allowed £157 million – 29% of the total in Heathrow's plan. One of the main drivers behind this result is the CAA's use of 'payback' analysis. The CAA notes that: *"when assessing the business case analysis supplied by HAL for these projects, we sought to identify those projects which are expected to make a* ***net contribution to single till revenues in H7****, either through protecting existing sources of revenue or through generating incremental revenues within a single control period i.e. five years."*[1]

In particular, we understand that in RBP Update 2, Heathrow provided an estimate of the 'payback' period for each commercial capex project – i.e. the number of years after which the cumulative incremental revenues generated from the project in net present value terms exceed the upfront capital cost. Based on our discussions with Heathrow we understand that the CAA has not allowed projects where the incremental revenue generated from the project within the first 5 years does not pay back the capital cost in full, disregarding revenues beyond the first 5 years.

SCOPE AND STRUCTURE OF THIS REPORT

We have been commissioned by Heathrow to comment on the CAA's payback analysis:

- First, to provide context, we provide an overview of how commercial revenue feeds into the regulatory framework; and
- Second, we provide our thoughts on the CAA's approach.

[1] https://publicapps.caa.co.uk/docs/33/CAP2365C%20H7%20Propoals%20Section%202.pdf

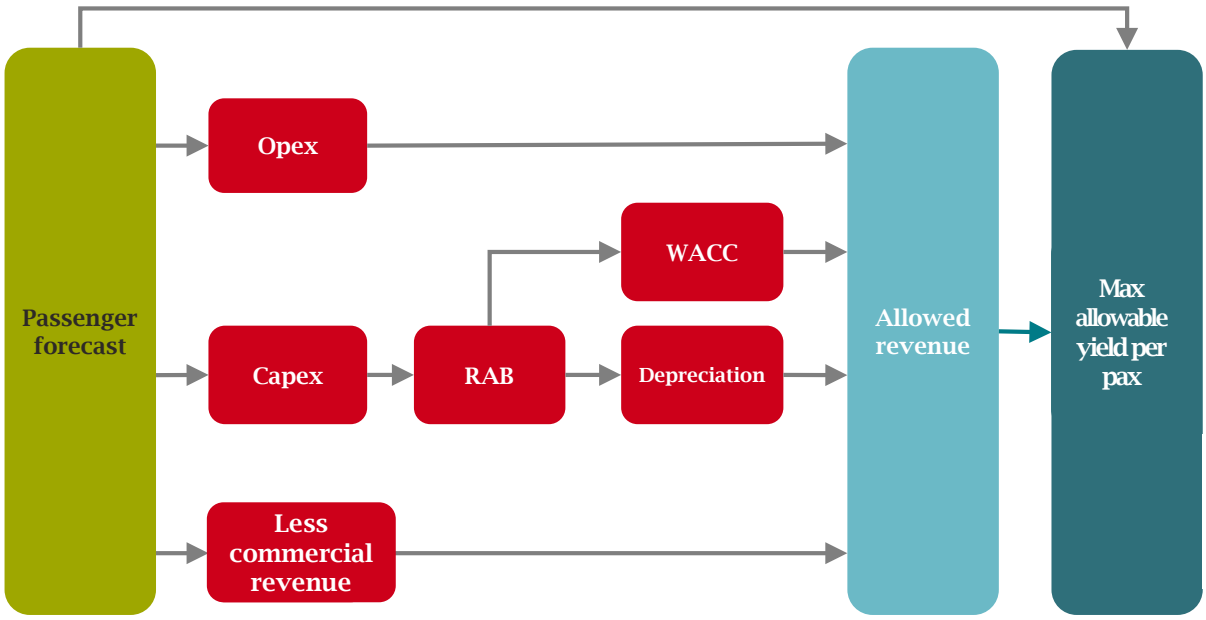
THE ROLE OF COMMERCIAL REVENUES IN THE REGULATORY FRAMEWORK

Heathrow is regulated by the CAA under a 'single-till' approach. At a high level, this means that, for each year of the upcoming regulatory period:

- The CAA first forecasts the total cost of operating and maintaining the airport (i.e. opex plus depreciation plus return on assets);
- It then subtracts its forecast of commercial revenues from the total cost to derive Heathrow's allowed revenue from airport charges; and
- This figure is then divided by the CAA's passenger forecast to determine the maximum allowable yield per passenger.

This is illustrated below.

FIGURE 1 OVERVIEW OF HEATHROW'S REGULATORY MODEL



Source: Frontier illustration

In practice, this means that in the regulatory framework, the greater the CAA's commercial revenue forecast, the lower the airport charges. Therefore, the CAA's forecast of commercial revenue clearly forms an important part in its overall decision on airport charges.

OUR COMMENTS ON THE CAA'S PAYBACK ANALYSIS

First, clearly, it is reasonable for the CAA to consider the payback of commercial capex projects in the round. If the incremental revenues associated with a particular project were not expected to recover the capital costs then clearly this would appear to be a poor investment, other things being equal. And it is reasonable for the CAA to weigh up whether

(and by how much) it is appropriate for airport users today to fund commercial capex projects that go on to only / mostly benefit users in future periods.

However, in our view, focusing on payback over a 5-year period is far too short-sighted. This approach:

- Fails to recognise that projects can still make a 'net contribution to single till revenues' within 5 years even if they do not fully pay back the total cost within 5 years;
- Is inconsistent with the CAA's duties to protect the economic interests of *future* airport users, as ultimately the approach will result in higher charges in future periods;
- Is inconsistent with the CAA's approach in previous periods. This introduces intertemporal issues whereby airport users in H7 effectively benefit from commercial capex which was funded by airport users in previous periods whilst not necessarily contributing themselves to users in future periods to the same extent;
- Is not in line with regulatory precedent. At the 2019 price control at Dublin Airport, the CAR assessed and ultimately allowed a number of projects where the payback was significantly higher than 5 years, with some projects with paybacks of up to 16 years still being allowed. The CAR explicitly noted that these projects were in the interest of users;
- Is inconsistent with the CAA's approach to assessing other types of capex.
- Fails to recognise that commercial capex also drives improvements in service quality. The CAA is narrowly focusing on the financials only;
- Is inconsistent with what we would expect to see in a competitive market, and ultimately undermines the rationale of economic regulation in the first place; and
- Is particularly biased against commercial capex related to property, which often involves large upfront investment with relatively long lead times and long asset lifetimes.

We discuss these points in turn below.

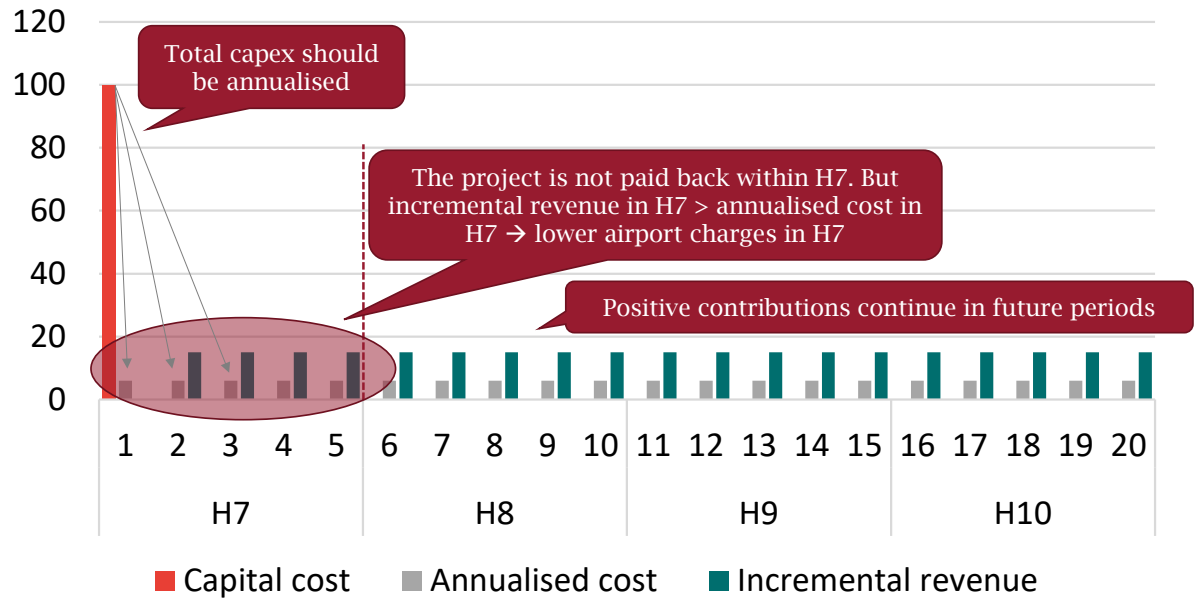
THE CAA'S APPROACH FAILS TO RECOGNISE THAT PROJECTS CAN STILL MAKE A 'NET CONTRIBUTION TO SINGLE TILL REVENUES' EVEN IF THEY DO NOT FULLY PAY BACK THE INVESTMENT WITHIN 5 YEARS

As illustrated in Figure 1 above, it is important to note that total capex does not feed directly into airport charges. Capex enters the RAB, with depreciation and the return on capital subsequently feeding through into airport charges over time. This reflects the point that capex typically relates to assets with long asset lifetimes – often far greater than just 5 years – and the cost is recovered over a number of years.

The illustration below highlights that the incremental revenues associated with a particular project may not pay back the *total* capex within 5 years, but they may still be greater than the

annualised costs (i.e. depreciation plus return on assets plus any associated opex), thereby making a positive contribution to the single till and ultimately resulting in lower airport charges.

FIGURE 2 THE CAA'S APPROACH WOULD RESULT IN SOME PROJECTS BEING DISALLOWED EVEN THOUGH THEY COULD LOWER AIRPORT CHARGES IN H7



Source: Frontier illustration

The CAA's focus on 5 years is therefore far too narrow and overlooks this point. It claims to have identified "*those projects which are expected to make a net contribution to single till revenues in H7*". However, in light of the above, this is not the case, and its approach might actually result in some projects being disallowed even though they could lower airport charges within 5 years.

THE CAA'S APPROACH IS INCONSISTENT WITH ITS DUTIES AND ITS APPROACH IN PREVIOUS PERIODS

The CAA notes that its "*primary duty is to further the interest of users… of air transport services regarding the range, availability, continuity, cost, and quality of airport operation services*"[2]. Regarding the term 'users', the CAA includes a footnote which clarifies that this includes "*present and **future users***".

For many commercial capex projects there is an inevitable time-lag between the investment being made and the associated revenues coming online. It is therefore possible that the incremental revenues may not exceed the annualised costs in the first 5 years of the investment, but may still go on to make significant contributions in future years. However, the CAA's approach completely ignores these contributions in future periods, which clearly

[2] https://publicapps.caa.co.uk/docs/33/CAP2365A%20H7%20Summary.pdf

prioritises the interests of present users. The CAA's approach would appear to disallow projects even if they resulted in a significant reduction in airport charges in future periods, which seems clearly at odds with its duties.

Also, based on a review of the CAA's Initial Proposals and Final Proposals for Q6, we find no explicit reference to payback analysis similar to that carried out by the CAA for H7. There are some references to related issues. For instance, the CAA noted the following:

"There was a difference of view [between Heathrow and airlines] in relation to capital investment criteria for commercial investments. ***Airlines considered that projects should be single till positive by the end of Q6****. Projects that did not meet this could be considered if the strategic/passenger benefit criterion justified it, though this would not be a purely commercial decision. HAL considered that a focus on a five-year payback would disproportionately de-prioritise projects conducive to long-term commercial growth."*[3]

However, we note that the CAA did not give its view on this issue. Also, we would highlight that airlines referred to projects being 'single till positive'. As discussed above, this term suggests that airlines would support commercial capex projects where the incremental revenues exceed the *annualised* costs of the project (and therefore reduce airport charges), even if the full payback is not within 5 years.

Therefore, the CAA's approach for H7 appears to be a new development, and one that goes beyond airlines' views in Q6. This change in approach also results in intertemporal issues. The CAA's approach for H7 effectively favours present users. Users during H7 will continue to benefit from commercial capex which was funded by users in previous periods, whilst not necessarily making the same level of contribution to users in future periods. It is not clear whether this was the CAA's intention, and it appears to be inconsistent with its duties.

Elsewhere in the Q6 Initial Proposals and Final Proposals, the CAA referred to 'net present value' in the context of whether Heathrow should contribute to the cost of Crossrail. A similar type of approach could be considered for commercial revenue. In principle, the CAA could develop its analysis and come to a view on whether (and how much) users today should fund commercial capex projects that go on to only / mostly benefit users in future periods. This could involve analysis of discount rates, net present values, examining the net contributions made by users in previous period, and forecast contributions in future periods, etc.. But as it stands, the CAA's approach is too simplistic and short-term focused, which will ultimately result in higher airport charges in the longer term.

THE CAA'S APPROACH IS NOT SUPPORTED BY REGULATORY PRECEDENT

We are not aware of such a short-term payback period being considered in other jurisdictions. We note that at the 2019 price control at Dublin Airport, the CAR assessed and ultimately

[3] CAP 1027 Economic regulation at Heathrow from April 2014 initial proposals https://publicapps.caa.co.uk/docs/33/CAP%201027%20Economic%20regulation%20at%20Heathrow%20from%20April%202014%20initial%20proposals.pdf

allowed a number of commercial capex projects where the payback period was significantly longer than 5 years.[4] For instance:

- CIP.20.02.009- Campus Buildings- Mechanical, Electrical & LSS Upgrade: "*In relation to the energy projects, Dublin Airport advise that all business cases show a **5-10 year payback** period on these investments. **We therefore conclude that these projects are in the interests of airport users**.*"

- CIP.20.07.030- Photovoltaic Farm: *"Dublin Airport has provided a business case for this project, **indicating a payback period of 13 years** with the overall asset life now adjusted to 25 years. When the revised cost of capital and the draft Steer costing are instead applied, **the payback period falls to 11 years while the Net Present Value increases to €15m**. Dublin Airport's analysis indicates that this project would have supplied 9.3% of Dublin Airport's electrical requirements, or 4.5% of the overall energy requirement, in 2018. The project will also allow Dublin Airport to better align itself with EU and government policy in relation to sustainability. **This project is therefore in the interests of users;** with delivery due in 2023, an associated opex impact has been built in to the allowance for 2024."*

- CIP.20.04.006- T1 Multi Storey Carpark Block B: "*We note that the remaining asset life of the T1 MSCP is at least 15 years; given the above reduction in the number of available spaces, **the payback period extends out to 16 years**. We believe that, with maintenance, the core T1 MSCP should exceed this **and not risk the associated revenues over the full 25-year asset life of this project**.*"

Based on the above, it would seem that the CAR was not particularly concerned by these longer payback periods, and it explicitly notes that the projects are in the interest of users.

THE CAA'S APPROACH IS INCONSISTENT WITH ITS APPROACH TO OTHER TYPES OF CAPEX

It is worth comparing the CAA's use of payback analysis when assessing commercial capex with its approach for assessing other types of capex.

Investments with long lead times and long asset lifetimes – such as new terminal building, or a new runway – would never pass a 5-year payback period. Therefore, it is not clear why the CAA would apply such an approach for commercial revenue. For H7, the CAA is forecasting a depreciation charge each year which equates to around 5% of the RAB, suggesting that the RAB is fully depreciated over a c20 year period on average. Therefore, assessing commercial capex over a 5-year period appears inconsistent with the CAA's approach elsewhere.

Given how it feeds into the regulatory framework, to some extent commercial revenue can be viewed as a negative opex item. Therefore, commercial capex can be viewed as investing in capex in order to lower costs in future. This is broadly comparable to other types of capex – e.g. where opex solutions are replaced with capex solutions with lower costs in the longer

[4]

term. However, the 5-year payback test does not appear to be applied for those types of projects.

THE CAA'S APPROACH IGNORES SERVICE QUALITY

Elsewhere in the Final Proposals, the CAA notes that "*consumers' interests are furthered not only by ensuring that the cost to them of the airport operation services provided by HAL is appropriate, but also by seeking to ensure that the services HAL provides meet their needs in terms of their range, availability, continuity and* ***quality.***"[5]

However, the CAA's assessment of commercial capex was based solely on its payback analysis, which prioritises the objective of lowering airport charges in H7 and fails to take into account those other considerations, including service quality.

In addition to stretching cost challenges, Heathrow is also subject to outcome based regulation (OBR). This captures that price is not the only thing that is important to consumers. One of the high level outcomes included in the OBR framework is 'I have an enjoyable experience at the airport', which is underpinned by various measures including:

- Overall satisfaction;
- Enjoy my time at the airport; and
- Airport that meets my needs.

For these measures, Heathrow will be subject to a target and potentially exposed to financial penalties if it cannot meet those targets. Heathrow notes that many of its commercial capex projects are aimed at enhancing the retail experience. For instance, within Heathrow's commercial capex programme, the 'Digital and Data Transformation' project is described as "*Upgrade existing legacy capability & implement new digital & data propositions through H7, to* ***enhance each passengers' end to end journey through Heathrow****. This investment reflects the need to modernise given changing* ***consumer expectations*** *of service & protect revenue given a significant shift to eCommerce post Covid. It will help to contribute to the following OBR measures; Enjoy my time at the airport; overall satisfaction; helpfulness/attitude of airport staff; ease of understanding Heathrow's Covid-19 safety information & an airport that meets my needs*"[6]

However, the CAA appears to have ignored these considerations.

THE CAA'S APPROACH IS INCONSISTENT WITH WHAT WE WOULD EXPECT TO SEE IN A COMPETITIVE MARKET

Economic regulation is intended to mimic the outcomes that we would expect to see in a competitive market. In a competitive market, we would expect airports to try to maximise profits from their commercial business, with those profits then effectively being used to lower

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5 https://publicapps.caa.co.uk/docs/33/CAP2365B%20H7%20%20Proposals%20Section%201.pdf

6 https://publicapps.caa.co.uk/docs/33/CAP2366F.pdf

airport charges in an attempt to increase market share. In this context, we would not expect to see airports apply a rigid 5-year payback rule to commercial capex. When considering whether to invest in a particular commercial project they would weigh up the cashflow implications and the timing of upfront capital costs versus future revenues. Therefore, the CAA's approach applies an artificial constraint on Heathrow's ability to invest in commercial capex which is not seen in competitive markets.

Also, Heathrow is incentivised to outperform the CAA's final decision. It can do this by outperforming on traffic, opex, capex, financing costs, service quality, or outperforming on commercial revenues. The CAA notes that if "*HAL is able to generate higher revenues than the allowance, then (other things being equal) it is able to retain the difference.*"[7] From a regulatory perspective, outperformance can be viewed as a good thing, as an outperformance in one period can be used to set more stretching targets in subsequent periods. This means that ultimately consumers benefit by having lower airport charges in the longer term. However, the CAA's approach significantly constrains Heathrow's ability to invest in commercial capex which therefore limits its ability to outperform.

Also, we note that the CAA has applied a 'management stretch' of 1% per annum to Heathrow's commercial revenue forecast. Similar to frontier shift for opex, the management stretch is designed to challenge Heathrow to grow commercial revenues "*due to HAL's management actions that cannot be explained using cost drivers such as passenger volumes.*"[8] If the CAA is disallowing commercial capex, in a way that it did not historically, this calls into question whether Heathrow can realistically be expected to achieve a management stretch going forward.

The CAA's approach also appears to undermine airline views. Based on our discussions with Heathrow, we understand that airlines generally showed support for the commercial capex projects which the CAA has subsequently disallowed. The CAA noted itself in Q6 that "*HAL and the airlines are better-placed than the CAA to determine which investment projects are suitable.*" It is not clear why the CAA has decided to change its approach.

There is a question as to whether Heathrow should still be allowed to go ahead with these investments, even if the CAA has not allowed the funding for them – in which case they would not be included in the single till. This would be broadly similar to the approach applied to Heathrow's POD monorail project. In Q4, airlines did not show support for the project, but Heathrow ultimately decided to go ahead with it anyway on wider commercial / strategic grounds. As a result, we understand that both the costs and revenues associated with the POD are now not included in the single till. In principle, this approach – which is effectively a hybrid till approach – could also be applied to the H7 commercial capex which is currently not being allowed by the CAA based on the payback analysis. However, it is not clear whether such a radical shift in the regulatory framework was the CAA's intention.

[7] Economic regulation of Heathrow Airport - H7 Final Proposals Section 2 - Building Blocks

[8] https://publicapps.caa.co.uk/docs/33/CAP2365C%20H7%20Propoals%20Section%202.pdf

THE CAA'S APPROACH OVERLOOKS THE POTENTIAL FOR COMMERCIAL PROPERTY PROJECTS

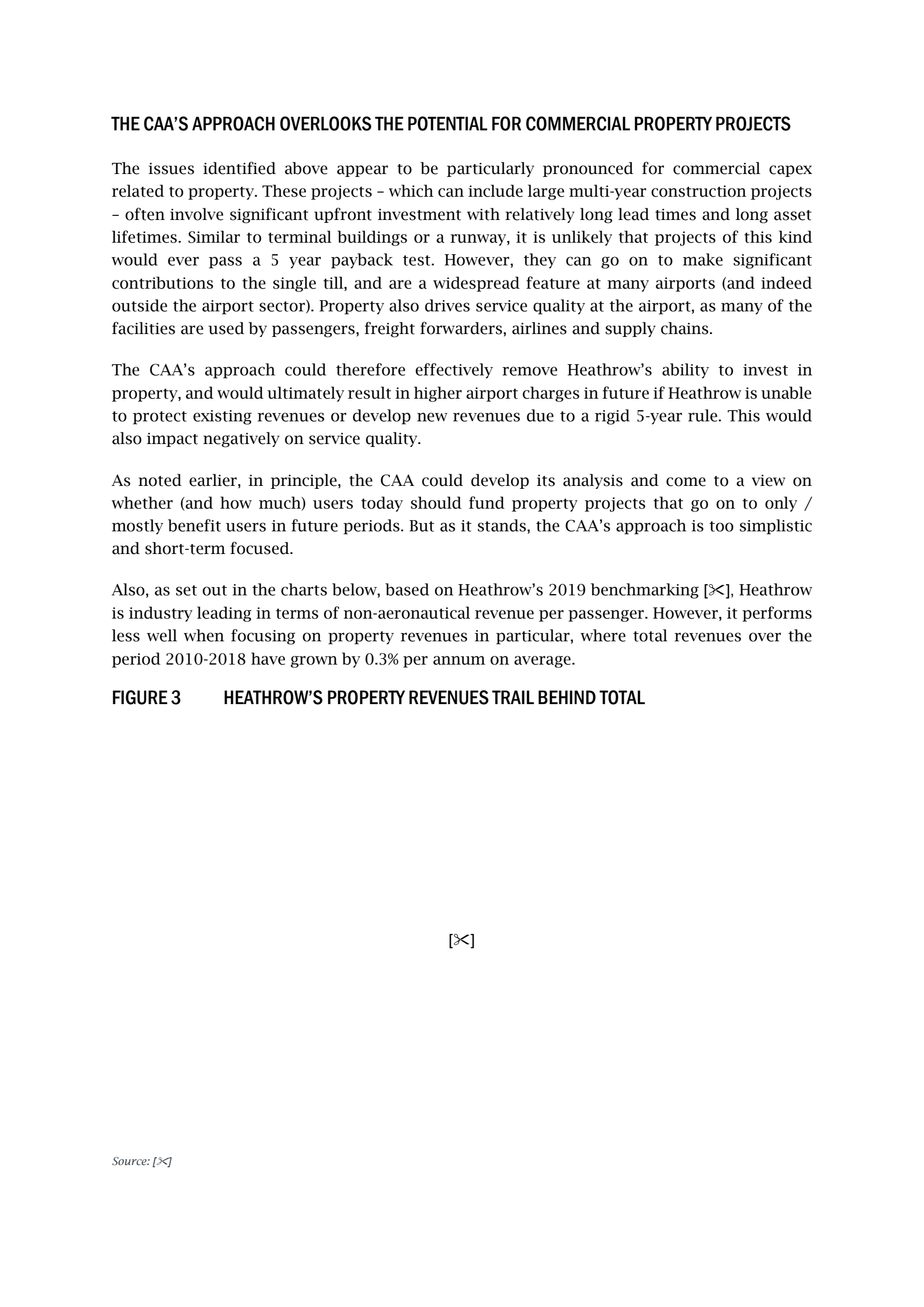
The issues identified above appear to be particularly pronounced for commercial capex related to property. These projects – which can include large multi-year construction projects – often involve significant upfront investment with relatively long lead times and long asset lifetimes. Similar to terminal buildings or a runway, it is unlikely that projects of this kind would ever pass a 5 year payback test. However, they can go on to make significant contributions to the single till, and are a widespread feature at many airports (and indeed outside the airport sector). Property also drives service quality at the airport, as many of the facilities are used by passengers, freight forwarders, airlines and supply chains.

The CAA's approach could therefore effectively remove Heathrow's ability to invest in property, and would ultimately result in higher airport charges in future if Heathrow is unable to protect existing revenues or develop new revenues due to a rigid 5-year rule. This would also impact negatively on service quality.

As noted earlier, in principle, the CAA could develop its analysis and come to a view on whether (and how much) users today should fund property projects that go on to only / mostly benefit users in future periods. But as it stands, the CAA's approach is too simplistic and short-term focused.

Also, as set out in the charts below, based on Heathrow's 2019 benchmarking [✂], Heathrow is industry leading in terms of non-aeronautical revenue per passenger. However, it performs less well when focusing on property revenues in particular, where total revenues over the period 2010-2018 have grown by 0.3% per annum on average.

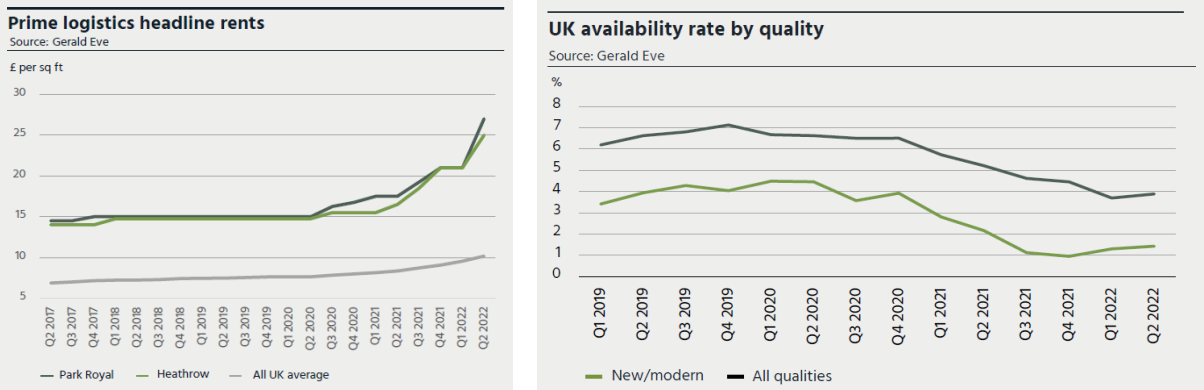
FIGURE 3 HEATHROW'S PROPERTY REVENUES TRAIL BEHIND TOTAL



Source: [✂]

It should also be noted that property value / rents in and around Heathrow have been growing significantly in recent years, and across the UK, availability of space has been decreasing, with availability in London West particularly low, at around 2%. Taken altogether this suggests that there is significant demand for space at Heathrow, and therefore an opportunity for Heathrow to grow its property revenues – which ultimately would result in lower airport charges.

FIGURE 4 RENTS AT HEATHROW HAVE INCREASED SIGNIFICNATLY SINCE 2017, WITH FALLING AVAILABILITY ACROSS THE UK AS A WHOLE



Source: Based on Gerald Eve Prime Logistics report July 2022

However, in practice, Heathrow is significantly space-constrained. There is a limit to the amount of space it can provide to tenants, especially when space for commercial activities competes with space for airport operations.

FIGURE 5 COMMERCIAL SPACE PER MILLION PASSENGERS IS RELATIVELY LOW AT HEATHROW

[✂]

Source: [✂]

However, even within these constraints, there are still opportunities to grow revenues. For instance, based on our discussions with Heathrow, we understand that Heathrow has hundreds of acres of single-surface car parking. Given the prevalence of multi-storey car

parking facilities at other airports, this can be viewed as a missed opportunity, as a multi-storey car parking facility could free up capacity for industrial / logistics use without necessarily losing car parking revenues. Such an approach would however require significant capital investment, and it is unlikely to be paid back within 5 years.

Also, based on our discussions with Heathrow, we understand that there is a more immediate need to protect existing property revenues by ensuring that existing properties remain compliant with tighter building regulations. In 2015, the Government introduced Minimum Energy Efficiency Standards (MEES)[9], aimed at improving the worst performing buildings in the UK in terms of energy efficiency. From 2023 onwards, if buildings do not achieve a minimum Energy Performance Certificate (EPC) rating of F&G, landowners will be unable to let them to third party tenants, without incurring financial penalties. From 2027, the regulations tighten, where buildings must achieve a minimum EPC rating of D&E, and by 2030 all buildings must be achieve a rating of C. We understand that Heathrow has a number of properties that currently sit in bands D and E meaning that investment will be required to ensure that they remain compliant with the regulations, and enable Heathrow to protect revenues going forward. In addition to protecting revenue, this investment will also clearly support Heathrow's Net Zero ambitions, and will also ensure that tenants can continue operating at Heathrow – many of whom provide essential services for airport users.

In this context, it would seem misguided and against the interest of airport users to apply a rigid 5-year payback rule which could potential result in Heathrow's revenues and service quality being eroded over time. In general, a 5-year time horizon is too short when dealing with assets with much longer asset lifetimes.

[9] https://www.gov.uk/guidance/domestic-private-rented-property-minimum-energy-efficiency-standard-landlord-guidance